

EFFECT OF FOLIAGE TREATMENT OF GIBBERELLIC ACID ON LAC HOST PLANTS

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The seedlings of *Albizzia lucida* Benth., *Moghania macrophylla* (Willd.) O. Ktze. and *Samanea saman* (Jacq.) Merr. sprayed with Gibberellic acid in the form of aqueous solutions of 10, 20 and 40 ppm concentrations on the growing tips of the plants showed an increase in plant height and basal circumference. The plants treated with 20 ppm gave the best performance as compared to other treatments. However, the application of Gibberellic acid had no deleterious effect on the root growth.

With the adoption of intensive lace cultivation using bushy lac hosts, the need to establish plantation of the host plants and to develop satisfactory shoots within short period was keenly felt. Reportedly the Gibberellic acid being quite useful for accelerating the growth of the plants (Stowe and Yamaki, 1957 and Witter and Buckowac, 1957), a preliminary study was taken up with some bushy lac hosts under potted conditions to see its effect on their growth.

Seedlings of *Albizzia lucida* Benth., *Moghania macrophylla* (Willd.) O. Ktze. and *Samanea saman* (Jacq.) Merr. were raised in earthen pots under uniform conditions. Gibberellic acid in the form of aqueous solutions of 10, 20 and 40 ppm concentrations was sprayed at the growth tips of the plants, when they attained a height of 5-8 cm. Spray application of Gibberellic acid was repeated three times at fortnightly intervals. The observations on growth characters were recorded at regular intervals

Table 1. Effect of Gibberellic Acid on height and basal circumference of different species of lac host plant

Treatment	<i>Albizzia lucida</i>		<i>Samanea saman</i>		<i>Moghania macrophylla</i>	
	Plant height (cm)	Basal circumference (cm)	Plant height (cm)	Basal circumference (cm)	Plant height (cm)	Basal circumference (cm)
Control	33.5	2.5	37.3	2.9	71.3	3.0
GA 10 ppm	55.3	2.7	41.2	3.5	81.9	3.3
GA 20 ppm	62.7	2.3	55.8	4.5	92.2	3.7
GA 40 ppm	31.0	1.6	48.5	3.7	81.7	3.7
S Em	3.45	—	2.30	0.14	3.77	0.17
CD at 5%	10.58	—	7.06	0.43	11.57	0.52

till cessation of growth. Five plants were used for each treatment including the untreated control. The treatments were replicated three times and the observations were subjected to statistical analysis as per R.B.D.

The plants treated with 20 ppm of Gibberellic acid was observed to be superior to that of higher and lower levels adopted in the experiment (Table 1). The growth response, in terms of plant height and thickness of stem was recorded to be significantly better with *S. saman* and *M. macrophylla* while a lanky growth observed in the case of *A. lucida* was due to elongation of internodes without an increase in the thickness of the stem. The favourable effect of Gibberellic acid on significant increase of such growth parameters was also reported earlier by Seth and Mathanda (1959), Rao *et. al.* (1960) and Sircar and Chakrabarty (1960). A similar trend of favourable effect of Gibberellic acid was also noted on the root growth.

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Table 1. Effect of Gibberellic Acid on height and thickness of stem of *Pogostemon patchouli*

Treatment	<i>Pogostemon patchouli</i>		<i>S. saman</i>		<i>M. macrophylla</i>	
	Plant height (cm)	Stem thickness (mm)	Plant height (cm)	Stem thickness (mm)	Plant height (cm)	Stem thickness (mm)
Control	22.2	2.8	37.3	2.9	41.3	3.2
GA 10 ppm	23.3	2.7	41.3	3.2	45.7	3.3
GA 20 ppm	45.7	3.3	48.3	3.7	51.0	3.7
GA 40 ppm	31.0	1.8	48.3	3.7	51.0	3.7
2 ml	34.3	—	51.0	—	51.0	—
CD @ 5%	10.38	—	7.08	—	7.08	—